

A large, stylized letter 'A' is formed using the characters 'S' and 'Y'. The left and right vertical strokes are composed of 'S' characters, while the central vertical stroke and the diagonal strokes are composed of 'Y' characters. The 'A' is symmetrical and has a bold, blocky appearance.

[illegible]

(1) 72

CHANGE MODE TO EXECUTIVE AND KERNEL

```
0000 1      .TITLE  SYSCHGMOD - SYSTEM SERVICES TO CHANGE MODE
0000 2      .IDENT  'V04-000'
0000 3
0000 4
0000 5 :*****
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0000 24 :
0000 25 :
0000 26 :*****
0000 27 :
0000 28
0000 29 :++
0000 30 : FACILITY:
0000 31
0000 32 : SYSTEM SERVICES TO CHANGE MODE
0000 33
0000 34 : ABSTRACT:
0000 35
0000 36 :     CHANGE MODE TO EXECUTIVE SYSTEM SERVICE
0000 37 :     CHANGE MODE TO KERNEL SYSTEM SERVICE
0000 38
0000 39 : AUTHOR: D. N. CUTLER, CREATION DATE: 30-SEP-76
0000 40
0000 41 : MODIFIED BY:
0000 42
0000 43 :     V02-003 STJ0115      Steven T. Jeffreys      02-Sep-1981
0000 44 :     Liberal rewrite to increase speed.  Optimized for $CMKRNL.
0000 45
0000 46 :     V02-002 KDM0037      Kathleen D. Morse        12-Feb-1981
0000 47 :     Change non-kernel mode references to SCH$GL_CURPCB
0000 48 :     to use CTL$GL_PCB instead.
0000 49
0000 50
0000 51 :--
```



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0000 53 :
0000 54 : MACRO LIBRARY CALLS
0000 55 :
0000 56 :
0000 57 : $PCBDEF ;DEFINE PCB OFFSETS
0000 58 : $PRVDEF ;DEFINE PRIVILEGE BITS
0000 59 : $PSLDEF ;DEFINE PROCESSOR STATUS FIELDS
0000 60 : $$SFDEF ;DEFINE STACK FRAME OFFSETS
0000 61 : $$$DEF ;DEFINE SYSTEM STATUS VALUES
0000 62 :
0000 63 :
0000 64 : LOCAL SYMBOLS
0000 65 :
0000 66 : ARGUMENT LIST OFFSET DEFINITIONS
0000 67 :
0000 68 :
00000004 0000 69 ROUTIN=4 ;ADDRESS OF ROUTINE TO BE EXECUTED
00000008 0000 70 ARGLST=8 ;ADDRESS OF ARGUMENT LIST

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```
0000 72 .SBTTL CHANGE MODE TO EXECUTIVE AND KERNEL
0000 73 :+
0000 74 : EX$CMEXEC - CHANGE MODE TO EXECUTIVE
0000 75 : EX$CMKRNL - CHANGE MODE TO KERNEL
0000 76 :
0000 77 : THESE SERVICES PROVIDE THE CAPABILITY TO CHANGE THE CURRENT PROCESSOR
0000 78 : ACCESS MODE AND CALL A SPECIFIED ROUTINE WITH A SPECIFIED ARGUMENT LIST.
0000 79 :
0000 80 : INPUTS:
0000 81 :
0000 82 :     ROUTIN(AP) = ADDRESS OF ROUTINE TO BE EXECUTED AT SPECIFIED MODE.
0000 83 :     ARGLST(AP) = ADDRESS OF ARGUMENT LIST TO BE PASSED TO ROUTINE.
0000 84 :
0000 85 :     IF ENTRY AT EX$CMKRNL, THEN
0000 86 :
0000 87 :     R4 = CURRENT PROCESS PCB ADDRESS.
0000 88 :
0000 89 : OUTPUTS:
0000 90 :
0000 91 :     R0 LOW BIT CLEAR INDICATES FAILURE TO PERFORM SPECIFIED ROUTINE.
0000 92 :
0000 93 :     R0 = SS$NOPRIV - PROCESS DOES NOT HAVE PRIVILEGE TO CHANGE
0000 94 :     TO THE SPECIFIED ACCESS MODE.
0000 95 :
0000 96 :     R0 = FINAL VALUE RETURNED BY EXECUTED ROUTINE.
0000 97 :
0000 98 :     R0 LOW BIT SET INDICATES SUCCESSFUL COMPLETION.
0000 99 :
0000 100 :     R0 = FINAL VALUE RETURNED BY EXECUTED ROUTINE.
0000 101 : -
0000 102 :
0000 103 : .ENABLE LSB
0000 104 : .ENTRY EX$CMEXEC, ^M<R4>
54 00000000'GF 0010 0000 105 : MOVL G^CTL$GL_PCB, R4 ;GET CURRENT PCB ADDRESS
0000 106 : BBS #PRV$V_CMEXEC, - ;BRANCH IF PROCESS HAS CMEXEC PRIVILEGE
0000 107 : @PCB$$_PHD(R4), 20$ ;
0000 108 : BRB 10$ ;CONTINUE IN COMMON CODE
0000 109 : .ENTRY EX$CMKRNL, ^M<R4>
0000 110 10$: MOVPSL R0 ;GET PSL
0000 111 : BBS #PSL$V_PVMOD+1, R0, 30$ ;BRANCH IF CALLER NOT IN EXEC OR KERNEL
0000 112 :
0000 113 : ; CALL THE SPECIFIED ROUTINE, PASSING IT THE SPECIFIED ARGUMENT LIST.
0000 114 : ; IF THE ROUTINE RETURNS A SUCCESS STATUS IN R0, TAKE A FAST EXIT PATH
0000 115 : ; OUT OF THE SYSTEM SERVICE. THE IDEA IS TO AVOID A 'RET' INSTRUCTION,
0000 116 : ; WHICH IS FAR SLOWER THAN THE 'MOVL' AND 'ADDL'. IF THE ROUTINE
0000 117 : ; RETURNS A FAILURE STATUS, 'RET' BACK TO THE SYSTEM SERVICE DISPATCHER
0000 118 : ; TO USE THE SPECIAL SYSTEM SERVICE FAILURE CODE PATH.
0000 119 :
0000 120 20$: CALLG @ARGLST(AP), @ROUTIN(AP) ;CALL SPECIFIED ROUTINE
0000 121 : BLBC R0, 40$ ;IF ERROR, THEN TAKE 'NORMAL' EXIT PATH
0000 122 : MOVL SF$$_SAVE_FP(FP), FP ;RESTORE FRAME POINTER
0000 123 : ADDL S^#EX$C_CMSTKSZ, SP ;CLEAN STACK BACK TO PC, PSL
0000 124 : REI ;RETURN FROM THE SYSTEM SERVICE CALL
0000 125 30$: BBS #PRV$V_CMKRNL, - ;BRANCH IF PROCESS HAS CMKRNL PRIVILEGE
0000 126 : @PCB$$_PHD(R4), 20$ ;
0000 127 : MOVZWL #SS$_NOPRIV, R0 ;SET ERROR STATUS
0000 128 40$: RET ;
```

54 00000000'GF 0010 0000 105 : MOVL G^CTL\$GL_PCB, R4 ;GET CURRENT PCB ADDRESS
0000 106 : BBS #PRV\$V_CMEXEC, - ;BRANCH IF PROCESS HAS CMEXEC PRIVILEGE
0000 107 : @PCB\$\$_PHD(R4), 20\$;
0000 108 : BRB 10\$;CONTINUE IN COMMON CODE
0000 109 : .ENTRY EX\$CMKRNL, ^M<R4>
0000 110 10\$: MOVPSL R0 ;GET PSL
0000 111 : BBS #PSL\$V_PVMOD+1, R0, 30\$;BRANCH IF CALLER NOT IN EXEC OR KERNEL
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0000 125 30\$: BBS #PRV\$V_CMKRNL, - ;BRANCH IF PROCESS HAS CMKRNL PRIVILEGE
0000 126 : @PCB\$\$_PHD(R4), 20\$;
0000 127 : MOVZWL #SS\$_NOPRIV, R0 ;SET ERROR STATUS
0000 128 40\$: RET ;

04 BC 08 BC FA 0018 120 20\$:
10 50 E9 001D 121
5D 0C AD D0 0020 122
5E 00' C0 0024 123
02 0027 124
00 E0 0028 125 30\$:
EB 6C B4 002A 126
50 24 3C 002D 127
04 0030 128 40\$:

SYSCHGMOD
V04-000

- SYSTEM SERVICES TO CHANGE MODE B 5
CHANGE MODE TO EXECUTIVE AND KERNEL

16-SEP-1984 01:46:59 VAX/VMS Macro V04-00
5-SEP-1984 03:49:20 [SYS.SRC]SYSCHGMOD.MAR;1

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0031	129	
0031	130	.DISABLE LSB
0031	131	.END

SYSCHGMOD
Symbol table

- SYSTEM SERVICES TO CHANGE MODE

C 5

16-SEP-1984 01:46:59
5-SEP-1984 03:49:20

VAX/VMS Macro V04-00
[SYS.SRC]SYSCHGMOD.MAR;1

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ARGLST	= 00000008		
CTL\$GL_PCB	*****	X	01
EX\$CMEXEC	00000000	RG	01
EX\$CMKRN	00000010	RG	01
EX\$C_CMSTKSZ	*****	X	01
PCB\$P_PHD	= 0000006C		
PRV\$V_CMEXEC	= 00000001		
PRV\$V_CMKRN	= 00000000		
PSL\$V_PRVMOD	= 00000016		
ROUTIN	= 00000004		
SF\$P_SAVE_FP	= 0000000C		
SS\$P_NOPRIV	= 00000024		

+-----+
! Psect synopsis !
+-----+

PSECT name	Allocation	PSECT No.	Attributes
. ABS :	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
. BLANK :	00000031 (49.)	01 (1.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE
\$ABSS	00000000 (0.)	02 (2.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE

+-----+
! Performance indicators !
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.06	00:00:00.53
Command processing	105	00:00:00.50	00:00:05.00
Pass 1	249	00:00:06.07	00:00:18.43
Symbol table sort	0	00:00:01.01	00:00:03.54
Pass 2	41	00:00:01.08	00:00:03.43
Symbol table output	2	00:00:00.04	00:00:00.04
Psect synopsis output	2	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	430	00:00:08.79	00:00:31.00

The working set limit was 1200 pages.

33589 bytes (66 pages) of virtual memory were used to buffer the intermediate code.

There were 40 pages of symbol table space allocated to hold 689 non-local and 4 local symbols.

131 source lines were read in Pass 1, producing 18 object records in Pass 2.

12 pages of virtual memory were used to define 11 macros.

+-----+
! Macro library statistics !
+-----+

Macro library name	Macros defined
-\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	1
-\$255\$DUA28:[SYS.LIB]STARLET.MLB;2	7
TOTALS (all libraries)	8

761 GETS were required to define 8 macros.

SYSCHGMOD
VAX-11 Macro Run Statistics

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5-SEP-1984 03:49:20 [SYS.SRC]SYSCHGMOD.MAR;1

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There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:SYSCHGMOD/OBJ=OBJ\$:SYSCHGMOD MSRC\$:SYSCHGMOD/UPDATE=(ENH\$:SYSCHGMOD)+EXECMLS/LIB

0382 AH-BT13A-SE
VAX/VMS V4.0

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